



## **POLICIES AND PROCEDURES Chemistry Ph.D. Program**

**Charles E. Schmidt College of Science, Florida Atlantic University**

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**1. PROGRAM DESCRIPTION**

The Chemistry Ph.D. Program is a multidisciplinary doctoral program in the Charles E. Schmidt Colleges of Science at Florida Atlantic University. The Program admitted its first students in the Fall Semester of 2000. The Program Chair is Dr. Ramaswamy Narayanan, Chair, department of Chemistry & Biochemistry.

The Program refers to cross-disciplinary, multilevel approaches to education and research in chemistry, biochemistry and molecular medicine. Achieving an understanding of chemical and biochemical phenomena through scientific inquiry is becoming increasingly cross-disciplinary. Hence, a perspective that cuts across disciplinary boundaries and views chemical knowledge as integrative processes that span levels of chemistry, biology, informatics, biotechnology and biophysical chemistry is considered timely.

The program takes advantage of current faculty strengths in chemistry, biochemistry, drug discovery, molecular biology and bioinformatics to provide academic leadership and to mentor graduate students. The research conducted by faculty in the program contributes to fields such as synthetic chemistry, biochemistry, physical chemistry, natural products, drugs from the sea, biomedical science, environmental science, molecular biology, proteomics and bioinformatics. While the student's Dissertation research may be highly focused in one of the sub disciplines, the program curriculum will provide a context for viewing this research in light of its relationship to other levels of organization and processes. The curriculum will be individually tailored to each student's research interests and will be built around a set of core courses that emphasize the theme of chemistry and biochemistry plus elective courses decided by the student and his/her Advisory Committee, seminar courses and Dissertation research.

**A. Program Administration**

All actions of the Doctoral Graduate Faculty in Chemistry are subject to review and approval by the Dean of the College. The Chemistry Ph.D. Program shall remain consistent with all aspects of the educational policies of FAU.

The Chemistry Ph.D. program is administratively housed in the Department of Chemistry & Biochemistry in the Charles E. Schmidt College of Science at the Boca Raton Campus.

A six-member Program Committee comprising faculty from the Department of Chemistry & Biochemistry (COMMITTEE herein) is the governing body of the Program.

*The Chair of the COMMITTEE is appointed by the Dean of the College. The Chair is a tenured professor whose term of appointment is for five years. The term for the rest of the COMMITTEE members is five years. The Chair in consultation with the Dean MAY reappoint the members.*

The COMMITTEE is responsible for establishing academic policy pertaining to the program; curriculum development and oversight; and overall program evaluation, due process and administration.

This COMMITTEE shall also be responsible to appoint a Curriculum Committee, a Graduate Admissions Committee and any other Committee(s) as it deems fit, each composed of members from the Program's Graduate Faculty.

The Chair and three members of the six-member COMMITTEE shall constitute a quorum. In the event of a tie vote, a motion is deemed defeated unless the Chair elects to place the matter before the Program Faculty, whose majority decision is binding on the COMMITTEE.

The Chair of the Program SHALL distribute the summary report of the Program at least once a year to the entire Program Faculty.

The Program Faculty SHALL meet once a year.

*The Program SHALL be reviewed once in three years by an External Advisory Board appointed by the Chair of the Department of Chemistry & Biochemistry.*

### **B. Program Faculty**

A Doctoral Graduate Faculty in Chemistry is appointed by the COMMITTEE. This faculty shall represent the faculty base for the Chemistry Ph.D. program, teach the core courses, and be eligible for advising Doctoral Program graduate students.

Faculty members with tenure-track, research professor or affiliate appointments (assistant, associate, or full professor rank in the three categories) in participating departments, centers or institutes are eligible for appointment to the Doctoral Faculty in Chemistry.

*Eligibility for appointment to this Doctoral Faculty is based on demonstrated productivity in the areas of graduate education and research through (1) advising Doctoral students and (2) conducting research and related scholarly activities with a record of recent publications in peer-reviewed scientific journals.*

*Doctoral Graduate Faculty members shall also be expected to have active, extramurally-funded research programs.*

For faculty members newly appointed to FAU, appointment to the Doctoral Graduate Faculty of the Chemistry Program is through application to the Chair and can coincide with the time of the member's first faculty appointment at FAU. To be appointed, the prospective faculty member **SHALL** submit a written request for such appointment to the Chair, together with current curriculum vitae that includes appointment and rank at FAU and establishes credentials as an independent scholar in the conduct of scientific research.

All other appointments to the Doctoral Graduate Faculty in Chemistry **SHALL** require evaluation and approval by the COMMITTEE of a written nomination submitted on behalf of the applicant by a member of the Graduate Faculty in Chemistry.

The nomination is accompanied by current curriculum vitae that establish credentials as an independent scholar in the conduct of scientific research in areas complementing those in the department. Such appointees shall have affiliate appointments at FAU in accordance with University policy.

The COMMITTEE **may** require the prospective faculty members to give a seminar. The term of all prospective appointments to the Doctoral Graduate Faculty in Chemistry is five academic years. It must be approved by the Dean of the Charles E. Schmidt College of Science and the Graduate Dean.

All appointments **may be** renewed by the COMMITTEE, subject to demonstration by the faculty member at any time during the period of previous appointment of research productivity and participation in activities such as the following:

- Supervision of *at least* one student pursuing the doctoral degree within the last five years;
- Membership on at least one Doctoral Research Advisory Committee, excluding those chaired as the major professor;
- Major responsibility for a course for the Doctoral Graduate Program in Chemistry excluding seminars or Dissertation supervision; and
- Service on Committees of the Doctoral Graduate Program in Chemistry and any Committee **specifically** established in the Department of Chemistry & Biochemistry to facilitate activities of the Ph.D. Program.

## 2. ADMISSION REQUIREMENTS

**Application Deadlines:** Student applications are accepted for the Fall and Spring admission cycles. The completed applications must be received by July 1 (domestic) & February 15 (international) for **Fall** and November 1 (domestic) & July 15 (international) for **Spring**. Admissions Committee shall meet within one week of the deadline and select candidates for recommendation to the Graduate College. The Program MAY admit students in the Summer provided an Advisor with financial support is available and willing to take a student. The Admissions Committee makes the final decision in accepting ALL applicants to the Chemistry Ph.D. Program. A majority vote is required for an applicant to be admitted.

### Admission Criteria:

- Bachelor of Science degree in a field of chemistry or biochemistry, or other chemistry-intensive degree (e. g., Chemical Engineering or Pharmacy).
- The students SHALL have achieved a “B” average in chemistry courses taken at the junior and senior undergraduate levels and a combined score of 1000 or higher on the quantitative and verbal components of the general portion of the Graduate Record Exam. Most of the Ph.D. students are admitted with a graduating GPA above 3.0 and a GRE of 1100 or higher, in addition to other qualifications. Also required are letters of recommendation, academic transcripts, and sufficient TOEFL scores (see below) for non-native English speakers.
- Prior research experience, having a Master’s degree or a publication record MAY be an advantage for admissions.
- Students who are already in the Masters Program at FAU may be eligible to apply for conversion into the Ph.D. Program; however, if they are sufficiently advanced into the Masters Program, their admission will be delayed until they finish the Masters degree.
- Students requesting a transfer from the Masters degree to a Ph.D. MUST submit the request along with a justification to the Program Chair. The Program Committee SHALL vote on the request. Its decision is final.
- Strength of letters of recommendation and personal statement.
- International students must demonstrate competency in spoken English. International students whose native language is not English must score at least 213 (electronic version) or 550 (paper version) on the Test of English as a Foreign Language (TOEFL). Satisfactory TOEFL

scores can offset verbal GRE scores below 500 at the discretion of the Program's Admissions Committee. As specified in the FAU Graduate Catalog, international students whose transcripts are from non-U.S. institutions must have their credentials evaluated course by course. Additionally, all international graduate students who wish to become graduate teaching assistants at FAU must successfully complete the Seminar for International Teaching Assistants (SITA).

- The Chair of the Admissions Committee and the Chair of the Program shall assist the student in finding a home lab. The final decision about the student's choice of sponsor is made by the Admissions Committee and the Program Chair.
- Acceptance into the Program is based on stringent criteria and generally only the most highly qualified candidates among the pool of applicants SHALL BE selected. The Admissions Committee's decision is FINAL.

### 3. FINANCIAL ASSISTANCE

- Ph.D. and M. S. students are supported by either a Teaching Assistantship (TA) or Research Assistantship (RA) whose stipends are currently \$20,000 per year (Ph.D.) and \$12,000 per year (M. S.). Outstanding students may receive a signing bonus of up to \$5,000 subject to availability of funds. Graduate students MAY also be eligible for financial aid. All students accepted into the program and supported by TA or RA stipends will receive a tuition waiver.
- TA support generally can be expected for five years. However, support beyond is subject to availability of funds.
- *While no limit is established for the number of students each Advisor MAY have, the record of the Advisor (publications, Ph.D. students successfully trained and funded grants) SHALL be used as an indicator by the Program Chair.*

### 4. DEGREE REQUIREMENTS

It is generally expected that the students shall graduate **within five to seven years**. Students not finished in seven years will have their matriculation in the program re-evaluated and must petition for continuance.

#### A. Initial Course of Study and Course Requirements

Each student MUST be a registered full-time student (24 credits/year). Students are NOT allowed outside employment that may conflict with the program expectations. Students shall consult the Chemistry & Biochemistry Program Guidelines and the Graduate Policies and Procedures Manual for University-wide policies and procedures prescribed by the Office of Graduate Studies (see <http://graduate.fau.edu>).

**Doctoral degrees at FAU require at least 80 semester credits beyond the Baccalaureate Degree.**

The following are requirements of the Program in Chemistry:

- 1) The Research Advisory Committee SHALL be formed before the end of the student's first year.

- 2) The Research Advisory Committee shall consist of four members, including the Chair. At least three SHALL be members of the Graduate Faculty of the Chemistry Ph.D. Program (see web page for complete listing). The Research Advisory Committee is responsible for advising the student on the initial course of study.
- 3) The Research Advisory Committee is chosen by the major Advisor in consultation with the student;
- 4) One Committee member must be an approved Graduate Faculty Member of the University from outside the Department of Chemistry & Biochemistry.
- 5) All Research Advisory Committee members must be approved by the Chair of the Department of Chemistry & Biochemistry and the Chair of the Graduate Program Committee.
- 6) If the major Advisor is a non-tenured faculty member, at least one member of the Committee MUST be at the rank of a tenured Associate or full Professor.
- 7) If the major Advisor is from outside the Department of Chemistry & Biochemistry, at least two members MUST be from the Department.
- 8) If a Research Advisory Committee member resigns from the institution, the Chair of the Program SHALL appoints a new member.
- 9) If the Chair of the Research Advisory Committee resigns from the institution, he/she SHALL ensure that the dissertation research is completed.

#### B. Research Credits, Course and Dissertation Requirements

- 1) To receive credit for research conducted prior to candidacy, students should register for CHE 7978 (Advanced Research in Chemistry), with approval of the Advisor. Directed Independent Study credits are not accepted in the Program.
- 2) Students should register for CHM 7980-Dissertation to receive credit for research conducted after attaining candidacy, with approval of the Advisor. A minimum of 25 Dissertation credits are required for CHM 7980.
- 3) *Introduction to Chemical Research, a non-thesis seminar, three core courses and three electives constitute the basic course requirements for the degree.*
- 4) The students should initially take CHM 7978 (Advanced Research in Chemistry)
- 5) The students must complete Introduction to Chemical Research within the first two semesters.
- 6) Students MAY choose to do a rotation in the first semester in consultation with the Advisor or the Chair of the Program.
- 7) Students SHALL take the **three core courses** (*Instrumentation, Synthesis & Characterization, and Kinetics & Energetics*).
- 8) The students must take **at least three electives** which can be from other Colleges within FAU, if appropriate. The selection of the electives MUST be approved by the student's Research Advisory Committee or by the Advisor (if the Committee is not yet formed).
- 9) The Research Advisory Committee MAY require that a student complete more than three electives. The determination that all course work is completed is made SOLELY by the Research Advisory Committee.

- 10) The students **MUST** present a non-thesis seminar by the end of the second year of their program. Details of the seminar will be established by the faculty in charge of this course (CHM 6935).
- 11) If students have previously completed graduate-level courses these **MAY** be considered as a substitute for one or more core or elective courses at the discretion of the Research Advisory Committee.
- 12) *Students must maintain a GPA of at least 3.0 in their course work, in keeping with University-wide requirements. Failing this, the student shall be placed on probation per University guidelines.*
- 13) *Students must receive satisfactory or pass grades in the advanced research credits or Dissertation credits to continue in the Program. Failing this, the student shall be placed on probation per University guidelines.*
- 14) Upon admission to candidacy, the students **MUST** take a **MINIMUM** of 25 Dissertation credits (CHM 7980).
- 15) Students are required to register for a total of 9 credits in the fall and spring semesters and 6 credits in Summer C in order to be eligible for the tuition waiver.
- 16) *The students **MUST** maintain full-time status as the Dissertation research is time intensive. Students **MUST** refrain from any outside employment that may conflict with the program requirements. Upon strong justification, the Chair of the Program **MAY** grant a waiver to this requirement.*

The core courses will be offered each year and it is anticipated that the Advanced Biochemistry and Instrumentation course will be offered each fall and the Synthesis & Characterization and Kinetics & Energetics courses will be offered in the spring semester.

### C. Advancing to Candidacy

- 1) The Research Advisory Committee **SHALL** be formed at least one year before the Candidacy examination.
- 2) The Committee **SHALL** be assembled by the *end of the fourth semester*.
- 3) Once the Committee is approved by the Chair of the Department and the Graduate Program, the student will provide an annual written report and meet with his/her Committee AT LEAST once a year.
- 4) The first Committee meeting **MUST** be held before the end of the fourth semester.
- 5) *The Chair of the Program **SHALL** be a non-voting ex-officio member of the Research Advisory Committee.*
- 6) The student **SHALL** announce the Committee meeting one week in advance to the Program Chair.
- 7) The Committee will monitor the student's course work and at the appropriate time, approve the completion of all courses.
- 8) Prior to all Committee meetings, the student **MUST** prepare and distribute a brief written report (at least one week in advance) to all Committee Members and to the Chair of the Program.
- 9) All written reports will be deposited in the student's file in the Program Office. Following all Committee meetings, the student's supervisor will indicate whether progress is satisfactory or

unsatisfactory on the Student Milestone Chart and in the grades given in any graduate research or Dissertation courses for which the student has registered.

- 10) The Program Chair shall send out a reminder once a year (Fall) on the annual milestone report; it is the student's and the Advisor's responsibility to ensure that the Program Office receives the current milestone report.

### C. Admission to Candidacy

- **Must be done at least twelve months in advance of final Dissertation Defense.**
- The Candidacy Exam must be attempted within three to six months of finishing all course work and successfully completed within six months. The maximum time allowed to successfully complete the Candidacy Exam is three years, although in exceptional cases, an extension of one or two semesters may be granted by the Graduate Program Committee.
- Exam I & Exam II shall constitute admissions to candidacy and eligibility for Dissertation credits. The research proposal is a requirement for Dissertation in good standing. These exams will be specifically designed for each student; details are provided below.

**1) Exam 1: Written exam (4 hours).** The student's Advisory Committee will select three key publications in the student's area of research. The Committee chair will solicit questions regarding these publications from Committee members, assemble the exam, ensure that the Committee reviews the exam and solicit appropriate assistance with the evaluation. The Committee will decide if the exam is to be open- or closed-book format. The student will be given the selected three publications four weeks prior to Exam 1.

**2) Exam 2: Oral exam.** No later than four weeks after Exam 1, the student will meet with the Committee and will field questions related to the subject matter of Exam 1 as well as other questions in the student's area of research. This is expected to be a thorough examination of the student's knowledge in the selected area of research. The Graduate Program Chair MAY appoint an observer to the examination.

A copy of the graded Exam 1 and comments reflecting the student's performance in Exam 2 will be filed in the Program Office. Students will be given a Pass or Fail, or alternatively may be asked to complete writing and/or additional oral assignments in order to achieve a Pass. This decision will be made by the Committee. Students will have two opportunities to receive a Pass for the Candidacy Examination. If the student does not receive a Pass after the second opportunity, he/she will be dismissed from the Ph.D. Program. Students will be admitted to candidacy upon successful completion of the Candidacy Exam and must enroll in CHM 7980. The Research Advisory Committee may specify other requirements as part of the Candidacy exam.

**3) Research Proposal:** This activity is to be completed within six months of completing the Candidacy Exam. The Program Chair **MAY** grant an extension of this deadline upon strong justification. The goal of this exercise is for the student to prepare an original research proposal in the student's area of research following the format for the NIH National Research Service Award (specific instructions are available at <http://grants.nih.gov/grants/funding/416/phs416.htm#forms>) and successfully defend this orally to the Committee. The area must be distinct, but can be related to area of research. The Committee **MAY** choose other grant formats. The student will have eight weeks to complete the written proposal. The Committee **MAY** require an oral examination within two weeks following the submission of the written report.

A copy of the proposal, along with a description of the student's performance, will be deposited in the student's file in the Program Office. Students will have two opportunities to receive a Pass for the Research Proposal. If the student does not receive a Pass after the second opportunity, he/she will be dismissed from the Ph.D. Program. **Such students meeting the requirements MAY receive a Terminal Masters Degree subject to approval by the Graduate Program Committee.**

#### E. Dissertation Research and Defense of the Dissertation

##### **Defense of the Dissertation must be done at least twelve months after attaining Candidacy.**

- 1) The Dissertation research shall be conducted under the guidance of the student's Research Advisory Committee. Students are expected to meet with the Advisor and other Committee Members on a regular basis (at least once a year, preferably twice) as the Dissertation research proceeds.
- 2) The student and the Advisor SHALL submit an annual progress report to the Program Chair in the fall.
- 3) The plan of study must be submitted to the Graduate College one semester in advance of Dissertation defense.
- 4) At the beginning of the semester when the student is planning to defend the Dissertation, the student & the Advisor MUST inform the Program Chair.
- 5) The public defense **MUST take place at least three weeks prior** to the graduation date.
- 6) Students not meeting the College and University deadlines SHALL NOT graduate in the same semester of defense.
- 7) A draft written Dissertation that follows FAU guidelines for formatting shall be submitted by the student for review by the Research Advisory Committee.
- 8) The student SHALL provide the draft to the Committee **at least three weeks PRIOR** to the defense.
- 9) It is permissible to use published work as chapters provided their insertion follows FAU formatting guidelines. Students are expected to publish the results of research on an ongoing basis.
- 10) The Program Chair must also receive a draft copy **at least one week** in advance of the Dissertation defense.
- 11) *The draft Dissertation shall be made available by the Program Chair to the Program Faculty for review.*
- 12) Research from the Dissertation is anticipated to have resulted in at least one peer-reviewed manuscript (in press) with the student as first author (or at least a major contributing author) in a journal (ISI impact factor of >0.5). Upon strong justification, the Graduate Program Committee MAY exempt a student from this requirement.
- 13) The candidate **must** announce his/her Dissertation defense **at least two weeks** in advance to the Program Chair by email.
- 14) The results of the Dissertation research shall be presented in a public forum to which faculty and students of the program, as well as other interested parties, are invited.

- 15) *Following the public presentation, the student SHALL defend the Dissertation in a public forum.* Subsequently, the candidate shall defend the Dissertation in a closed meeting with the Dissertation Research Advisory Committee.
- 16) The Program Chair MAY assign an external faculty member to serve as an observer and the Program's representative at the defense.
- 17) At this meeting, the Research Advisory Committee shall vote on approval of the Dissertation.
- 18) The students shall have an opportunity to address any stated deficiency in a reasonable period of time and any revisions MUST be again unanimously approved by the Committee.
- 19) Successful defense of the proposal, completion of all other academic requirements, and formal submission of the approved Dissertation to the Office of Graduate Studies constitutes completion of the requirements for the Doctor of Philosophy in Chemistry.

**F. TA Support**

The Department of Chemistry & Biochemistry guarantees the following duration of Teaching Assistantship support for:

- M.S. students: 3 years
- Ph.D. students: 5 years
- Ph.D. degree students with a prior M.S. degree: 5 years

**G. Paperwork Requirements for Admission to Candidacy**

The Chair of the student's Research Advisory Committee must inform the Program Chair by email.

- 1) The milestone check list must be updated.
- 2) The FAU Admission to Candidacy Form must be completed.
- 3) The Admissions to Candidacy Compliance Verification Form must be completed.
- 4) The Memorandum to the College of Science, Associate Dean, and Student Services must be completed.
- 5) The students must schedule a meeting with the Chair of the Program to present the forms listed in numbers 2-5.
- 6) Once these steps are completed, the student is admitted to Candidacy and SHALL register for Dissertation credits.

**Note:**

- **Consult FAQs at the Chemistry Ph.D. web page for additional details.**
- **All of the forms mentioned above are available online. See Chemistry Graduate Program URL under forms download.**

#### 4. DUE PROCESS

- Students not meeting the requirements set forth by the Research Advisory Committee and the Program shall not matriculate.
- Students not meeting the requirements shall have an opportunity to address the deficiency in a reasonable period of time. This must be approved by the student's Research Advisory Committee and the Program Chair.
- On issues related to grades, students MAY petition the Department Chair responsible for the course delivery.
- If the student wishes to change the research Advisor, he/she shall first obtain approval from the Department Chair and the Chair of the Graduate Program. Approval shall be granted subject to availability of funds in the new sponsor's laboratory and the suitability of the Advisor's area of research. If approved, the student shall complete the candidacy requirements according to the newly constituted Research Advisory Committee. Students must successfully complete the Candidacy Exam and Research Proposal in the new laboratory.
- If an Advisor or a Committee member resigns from the University, the Program Chair SHALL appoint a new Committee member.
- Upon strong justification to the COMMITTEE, an Advisor may elect to resign from the Chair of the Research Advisory Committee. In such case, the Chair of the Program shall reassign the student to a new laboratory.
- Student may request a change of a Committee member to the Chair of the Program; a written justification is required.
- The Program Chair SHALL determine the suitability of Committee members and may appoint an observer to all Committee meetings.
- If the candidacy examination is not deemed satisfactory by the Research Advisory Committee, the student shall have an additional semester to address the deficiency. The Advisory Committee Chair shall notify the Program Chair of the proposed measure recommended to address the deficiency. The Program Chair MAY elect to have an observer if a subsequent Advisory Committee meeting is scheduled to address the deficiency.
- The student's final Dissertation proposal prior to graduation MUST be approved by the Research Advisory Committee.
- The student shall have the right to petition to the COMMITTEE to review any grievance. The student shall provide justification in writing to the Chair of the COMMITTEE.
- The COMMITTEE may appoint an ad hoc Committee to hear the grievance.
- The student SHALL have the right to petition the COMMITTEE if any undue delay occurs in meeting the requirements of the program. The COMMITTEE shall vote on any such petition; its decision is final.
- Students requesting a voluntary transfer from the Ph.D. Program to a Masters Program MUST submit the request along with a justification to the Program Chair. The COMMITTEE SHALL vote on the request. Its decision is final.
- The student shall have the right to petition the Program Chair for a leave of absence due to illness or other unforeseen circumstances; The Program Chair MAY grant a leave of absence for a limited period of time.

- Students are also required to abide by the FAU honor code outlined in the FAU Graduate Guidelines.
- Any student failing the plagiarism standards established by the Program SHALL be given a C to F grade on the course, depending on the incident's severity. Repeat of the offense SHALL be cause for dismissal from the Program.
- The program Chair SHALL consult the Program students prior to implementing major policy changes.
- Current guidelines SHALL supersede all earlier sets of guidelines.

## **6. DEADLINES**

The Program Faculty and the students are responsible for meeting ALL the deadlines. All reports to be submitted to the Program Chair. Students not meeting the College and University deadlines SHALL NOT graduate in the same semester of defense.

- 1) The student shall update an annual milestones checklist (Fall Semester, Sep 1 deadline) to facilitate oversight by the COMMITTEE.
- 2) The student's Advisor shall submit an annual progress report at the end of each academic year (Fall Semester, Nov 1 deadline) starting from the end of second year.
- 3) Within one month after each Committee meeting, the student shall submit a summary report.
- 4) Within six months of Admission to Candidacy, the student SHALL submit the Research Progress Report.
- 5) The plan of study must be submitted to the Graduate College one semester in advance of Dissertation defense.

## **7. SAMPLE SCHEDULE OF PROGRESS TO DEGREE**

**The following is a sample timeline** to assist students in making satisfactory progress toward completion of the degree. Students should try to complete course requirements, apart from Dissertation credits, within three years of matriculation. See also the section called "Conditions and Timetable for Graduation" in the Graduate Policies and Procedures Manual of the Graduate College.

### **Year 1**

- 1) Discuss a program of courses with your Advisor in the first semester. Your elective courses should be chosen to strengthen your background in your selected field of study.
- 2) Plan to do a rotation in the first semester in consultation with your Advisor.
- 3) Choose your Research Advisory Committee in consultation with your Advisor.
- 4) Follow the initial course of study chosen by your Advisory Committee.
- 5) Meet with your Committee before the end of the first year for approval of the plan of courses.
- 6) First semester: take two courses and gain admission to a research laboratory.
- 7) Second semester: take two additional courses and start research (develop thesis objectives).

- 8) Third semester: continue courses and research, and plan for the first meeting with your Advisory Committee.

**Year 2**

- 1) Arrange the first Committee meeting if you have not done so already.
- 2) Complete Core and Elective courses.
- 3) Complete the Plan of Study form which must be submitted to the Graduate College before the end of year 2 or early in year 3.

**Year 3 and Beyond**

- 1) Continue research, plan for candidacy examination and complete your research proposal.
- 2) Plan to present and successfully defend your Candidacy Exam (exam I, exam II plus research proposal) early in year 3. This however, can be done in year 2.
- 3) Successful completion of Exam I & Exam II SHALL qualify you for admission to candidacy, and permit you to register for Dissertation credits.
- 4) Complete the research proposal within six months of admission to candidacy.
- 5) Requirements for the doctoral degree should be completed in five to seven years.
- 6) Plan to meet at least once a year with your Committee.
- 7) Dissertation defense should be done at least twelve months after advancing to Candidacy.
- 8) Complete Dissertation research (at least 25 credits).
- 9) Have at least one peer-reviewed, first authored (or a major contributing author) publication (minimum one) in press before the Dissertation defense.
- 10) Submit Dissertation to the Research Advisory Committee.
- 11) Present your Dissertation research in a public forum.
- 12) Successfully defend your Dissertation and receive approval of the Dissertation.
- 13) Submit final copies of the Dissertation to the Graduate College.

Students are expected to submit research findings for publication in scientific journals on a continuing basis.

It is generally expected that students graduate **within five to seven years**; however, they may be eligible to graduate earlier subject to the approval of their Research Advisory Committee. Students not finished within seven years will have their matriculation in the program re-evaluated and must petition for continuance.

**8. ADDENDUM**

Any addendum to these guidelines SHALL be approved by the COMMITTEE.